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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/594,567 | 09/27/2006 | Masaru Hosokawa | 8007-1118 | 4713 |

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| EXAMINER | |
|---|---|
| ABU ALI, SHUANGYI | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1793 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/594,567 | HOSOKAWA ET AL. | |
| | Examiner | Art Unit | |
| | SHUANGYI ABU ALI | 1793 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *23 May 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-9 and 11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9 and 11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/27/2006, 09/27/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Election/Restrictions*

Applicant's election without traverse of Group I, claims 1-9 and 11 in the reply filed on 05/23/2008 is acknowledged.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The addition of the word "type" to an otherwise definite expression (e.g. a light scattering,) extends the scope of the expression so as to render it indefinite

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 9 and 11 rejected under 35 U.S.C. 102(b) as being anticipated by U. S. patent No. 6,562,761 to Fritzemeier et al.

Regarding claims 1-4 and 11, Fritzemeier et al. disclose a precursor composition comprising particles with a size of less than 50 nm (claim 4).

Since the particle size is less than 50 nm, it would be expected that the amount of particles larger that 0.5 microns, 0.3 microns or 0.2 microns are absent, thus reading on the claimed limitation absent evidence to the contrary.

With respect to "particle measurement by a light scattering type submerged particle detector in a liquid phase" the examiner asserts that Fritzemeier et al. meets this limitation and the claims are directed toward a product and not a process for determining the particle size. The method to measure the particle size has no weight in a product claim since this is a process limitation. In addition and assuming arguendo, burden is upon applicants to show that the reference size is not the same as the claimed size when measured according to the claimed invention.

With respect of claim 9, Fritzemeier et al. disclose a precursor composition in liquid phase, thus meet the limitation of the instant claim. Claim 9 is drawn to a composition; the limitation of the composition movement does not change the structure of the composition because this is also a process limitation which does not add patentability to a product claim.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-5, 7-9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. patent No. 6,511,718 to Paz de Araujo et al.

Regarding claims 1-4, 9 and 11, Paz de Araujo et al disclose a composition comprising a mist droplets (i.e. precursor) for metal oxides with a median particle size of less than 0.5 micron (col. 13, line 60).

The references differ from Applicant's recitations of claims by not disclosing identical ranges. However, the reference discloses "overlapping" ranges, and overlapping ranges have been held to establish prima facie obviousness (MPEP 2144.05). This is apparent because if the median size is less than 0.5 microns (any value below 0.5 micron), the amount of particles larger that 0.5 microns can be minimal

or even absent, thus reading on the claimed limitation absent evidence to the contrary.

With respect to "particle measurement by a light scattering type submerged particle detector in a liquid phase" the Examiner asserts that Paz de Araujo et al. meet this limitation because reference Paz de Araujo et al. discloses an overlapping range. Furthermore, the claims are directed toward a product and not a process for determining the particle size. The method to measure the particle size has no weight in a product claim since this is a process limitation. In addition and assuming arguendo, burden is upon applicants to show that the reference size is not the same as the claimed size when measured according to the claimed invention.

With respect of claim 9, Paz de Araujo et al. disclose a precursor composition in liquid phase, thus meet the limitation of the instant claim. Claim 9 is drawn to a composition; the limitation of the composition movement does not change the structure of the composition because this is also a process limitation which does not add patentability to a product claim.

Regarding claims 5 and 7, Paz de Araujo et al disclose the metal alkoxide is tetraisopropoxy titanium (table1).

Regarding claim 8, Paz de Araujo et al disclose the composition can be hafnium compound (col. 18, line 46).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. patent No. 6,511,718 as applied to claim 1 above and further in view of U.S. patent No. 6,512,297 to Matsuno et al.

Regarding claim 6, Paz de Araujo et al disclose a metal oxide precursor composition for chemical vapor deposition. But they are silent that cyclopentadienyl compound is used in the composition. However, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to use cyclopentadienyl precursor in Paz de Araujo et al. teaching, motivated by the fact that Matsuno et al., disclose that both metal oxide and cyclopentadienyl precursors can be used in the CVD process ( col. 15. lines 45-65). Interchangeability of one known CVD precursor for another that are both known for the same purpose is clearly within the scope of the skilled artisan.

***Conclusion***

The other references on the 892 are cited as art of interest because they are cumulative or less than the art relied in the rejection above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHUANGYI ABU ALI whose telephone number is (571)272-6453. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael A Marcheschi/
Primary Examiner, Art Unit 1793

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